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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,299	04/02/2004	Bunya Sato	09792909-5849	1885

26263 7590 12/15/2006

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EXAMINER

CHUO, TONY SHENG HSIANG

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/817,299

Applicant(s)

SATO, BUNYA

Examiner

Tony Chuo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 1-4 are currently pending. The objection to the drawings is withdrawn. The objections to the specification are withdrawn. The amended claim 1 does overcome the previously stated 102 and 103 rejections. However, upon further consideration, claims 1-4 are rejected under the following new 103 rejections. This action is made FINAL as necessitated by the amendment.

Claim Objections

2. Claim 4 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). For the purposes of compact prosecution, claim 4 is interpreted as being dependent on claim 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Killebrew et al (US 6296970) in view of Kojima (JP 2000-036299). The Killebrew reference discloses a battery pack housing a plurality of battery cells "112A" & "112B"

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and a conductive terminal boards "102A" & "102B" respectively connecting positive electrodes and negative electrodes of plurality of battery cells to outside terminals, wherein the conductive terminal board has a structure in which a first member "108A" is joined with a second member "106A" such that first member having excellent weldability is arrayed in a plurality-of-islands state in second member having excellent conductivity, and the positive electrodes and the negative electrodes of battery cells are welded to first member of conductive terminal board through resistance welding (See Figure 1B). Although the case of the battery pack is not shown, it is well known in the art that battery packs comprise battery cells enclosed inside a case. It also discloses the first member "108A" of conductive terminal board that is joined with the second member "106A" such that one surface of the first member shows an islands-like shape and the other surface thereof shows a shape that the island portions are connected to each other (See Figure 1B). It also discloses a first member "108" of said conductive terminal board that is provided with slits "520" and the positive and negative electrodes of battery cells are welded through a series-spot-electricity-welding such that said slits are straddled by electrodes thereof (See Figure 5C). However, Killebrew et al does not expressly teach a first member of the conductive terminal board that includes a rectangular slit in at least one island portion of the first member. The Kojima reference discloses a rectangular slit "5" in the first member of the terminal strapping plate "1" (See Drawing 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Killebrew conductive terminal board to include a first member of the conductive terminal board that includes a rectangular slit

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in at least one island portion of the first member in order to reduce the resistance and improve the weldability of the conductive terminal board.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Killebrew et al (US 6296970) in view of Kojima (JP 2000-036299) as applied to claims 1, 2, and 4 above, and further in view of Snyder (US 5948559). However, Killebrew et al as modified by Kojima does not expressly teach a first member of conductive terminal board that contains any one of or plural kinds among: nickel (Ni), nickel alloy, iron (Fe), iron alloy, stainless steel, zinc (Zn), zinc alloy, platinum (Pt), platinum alloy; and a second member that contains any one of or plural kinds among: copper (Cu), copper alloy, aluminum (Al), aluminum alloy, silver (Ag), silver alloy, gold (Au), gold alloy, beryllium (Be), beryllium alloy, rhodium (Rh), rhodium alloy, tungsten (W), tungsten alloy, molybdenum (Mo) and molybdenum alloy. The Snyder reference discloses a first member "20" that contains nickel and a second member "24" that contains gold (See Figure 2 and column 4, lines 17-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Killebrew/Kojima battery pack to include a first member of the conductive terminal board that contains nickel and a second member that contains gold in order to utilize materials that are excellent electrical conductors and have good welding properties.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Killebrew et al (US 6296970) in view of Kojima (JP 2000-036299) as applied to claims 1, 2, and 4 above, and further in view of Hasenauer (US 4581306). However, Killebrew et al as modified by Kojima does not expressly teach a first member of conductive terminal

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board that contains any one of or plural kinds among: nickel (Ni), nickel alloy, iron (Fe), iron alloy, stainless steel, zinc (Zn), zinc alloy, platinum (Pt), platinum alloy; and a second member that contains any one of or plural kinds among: copper (Cu), copper alloy, aluminum (Al), aluminum alloy, silver (Ag), silver alloy, gold (Au), gold alloy, beryllium (Be), beryllium alloy, rhodium (Rh), rhodium alloy, tungsten (W), tungsten alloy, molybdenum (Mo) and molybdenum alloy. The Hasenauer reference teaches battery cell connecting elements that are made of copper, aluminum, gold, silver, rhodium, and nickel (See column 3, lines 29-38). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Killebrew/Kojima battery pack to include a first member of the conductive terminal board that contains nickel and a second member that contains copper, aluminum, gold, silver, or rhodium in order to utilize materials that are excellent electrical conductors and have good welding properties.

Response to Arguments

7. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues that Killebrew fails to disclose or suggest a first member arrayed in a plurality of islands state in a second member. The applicant also argues that the first members "108A" & "108B" are not a first member having a plurality of islands and are not arrayed in its second member "102A". These arguments are not commensurate with the scope of the claims. First, the first member is not required by

claim 1 to be a single member. Second, the plurality of islands is in the second member, not the first member. Lastly, the first member "108A" & "108B" are arrayed in its second member "106A" & "106B", not "102A".

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571) 272-0717. The examiner can normally be reached on M-F, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy Tsang-Foster can be reached on (571) 272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC


SUSY TSANG-FOSTER
PRIMARY EXAMINER